

Jet Propulsion Laboratory Eleventh Annual High-Tech Small Business Development **Procurement Conference**



MARKET STRATEGIES FOR A COMPLEX CONTRACT **ENVIRONMENT AT JPL OR...**

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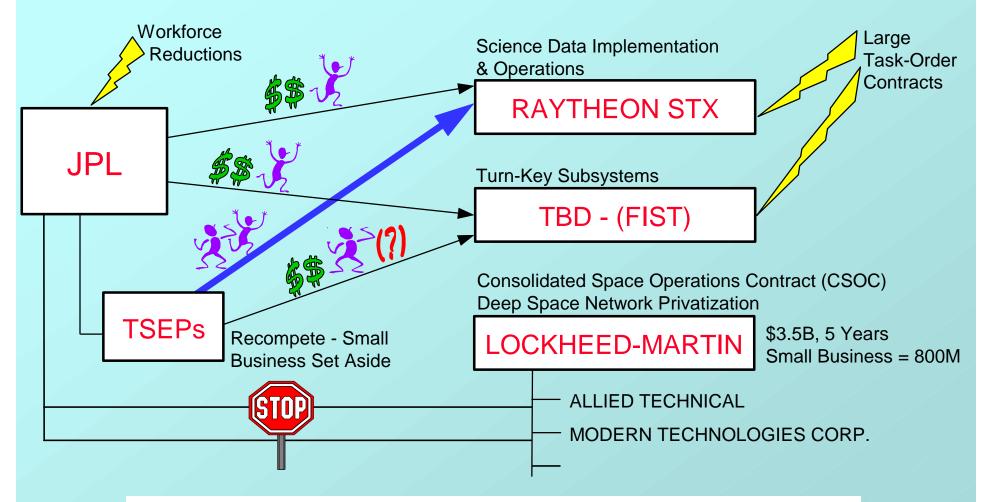


ACQUISITION OPERATIONS AND PLANNING

- Achieve NASA acquisition-oriented goals
- Contract Technical Manager, Technical Support Efforts
 Personnel Contracts (TSEPs) (\$300M in contract value, 575 contractors)
- Liaison/Representation: Technical Divisions, Program/Project Directorates to Acquisition Division
- Matching JPL-to-industry, industry-to-JPL
- Acquisition processes, planning, strategy
- Chair for the Strategic Technical Contracts Working Group
- Co-chair for the George M. Low Award & other supplier awards

JPL

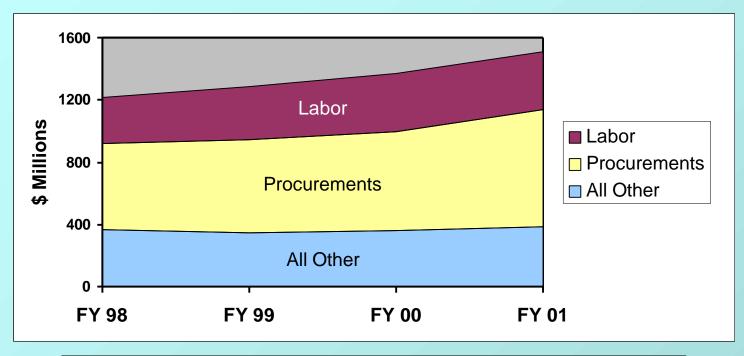
CHANGES IN THE CONTRACT ENVIRONMENT DEMAND MARKET STRATEGY CHANGES



TRANSITIONS IN THE CONTRACT ENVIRONMENT
AFFECT MARKETING STRATEGIES FOR SMALL BUSINESS



JPL BUDGET BY FISCAL YEAR



| | FY 98 | FY 99 | FY 00 | FY 01 |
|--------------|-------|-------|-------|-------|
| All Other | 367 | 346 | 361 | 385 |
| Procurements | 554 | 598 | 633 | 750 |
| Labor | 294 | 338 | 374 | 378 |

JPL's Budget shows little "real" growth in times of declining workforce and increasing procurements

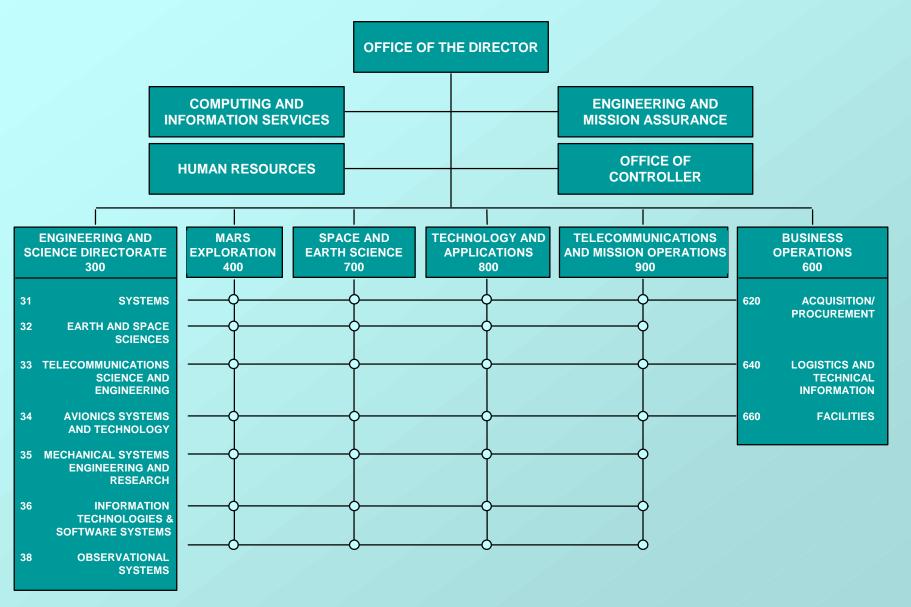


JPL'S SOCIOECONOMIC GOALS FOR FISCAL YEAR '99

| | FY '99 FORECAST | FY '98 ACTUALS |
|--------------------------------|--------------------|-------------------|
| Total Subcontract Base | \$600M | \$639M |
| Small Business Awards | \$180M | \$214M |
| Small Business % of total | 30% | 33.5% |
| Small Disadv. Bus. Awards | \$ 72M | \$ 88M |
| Small Disadv. % of total | 12% | 13.7% |
| Women-owned Bus. Awards | \$ 24M | \$28.2M |
| Women-owned Bus. % of total | 4% | 4.4% |
| Socio-economic Bus. Awards | \$ 96M | \$102M |
| Socio-economic Bus. % of total | 16% | 20.0% |
| | | |



JPL MATRIX ORGANIZATION





ENGINEERING AND SCIENCE DIRECTORATE

ENGINEERING AND SCIENCE DIRECTORATE (300)

SYSTEMS (31)

- MISSION DESIGN
- NAVIGATION
- SYSTEMS ANALYSIS AND ENGINEERING
- SPACECRAFT SYSTEMS DESIGN
- MISSION OPERATIONS SYSTEMS DESIGN
- END-TO-END
 INFORMATION SYSTEMS
 DESIGN
- OPERATIONS
 RESEARCH
- ECONOMICS

TELECOMMUNICATIONS SCIENCE AND ENGINEERING (33)

- TELECOMMUNICATIONS SYSTEMS ENGINEERING
- COMMUNICATION THEORY
- MICROWAVE REMOTE SENSING
- TRANSMITTERS AND RECEIVERS
- ANTENNAS
- ELECTROMAGNETIC WAVE THEORY
- ASTRONOMY, GEODYNAMICS AND METRIC TRACKING RESEARCH

MECHANICAL SYSTEMS ENGINEERING & RESEARCH (35)

- MECHANICAL SYSTEMS
- STRUCTURES AND MECHANISMS
- DYNAMICS ANALYSIS
- MATERIALS
- ENVIRONMENTAL TESTS
- THERMAL AND FLUID SYSTEMS
- DESIGN DRAFTING AND COMPUTER AIDED DESIGN (CAD)
- PROPULSION AND PYROTECHNICS
- BIOTECHNOLOGY
- CHEMISTRY CATALYSIS AND CHEMICAL SYSTEMS
- COMBUSTION
- HEAT TRANSFER
- MICROGRAVITY SCIENCES

INFORMATION TECHNOLOGIES AND SOFTWARE SYSTEMS (36)

- SPACE FLIGHT OPERATIONS AND MISSION CONTROL CENTER
- GROUND DATA SYSTEMS
- INSTITUTIONAL COMPUTING SYSTEMS AND SERVICES
- INFORMATION SYSTEMS ENGINEERING
- DATA MANAGEMENT AND INFORMATION EXTRACTION
- DIGITAL COMMUNCIATIONS SYSTEMS AND COMPUTER NETWORKS
- COMPUTER GRAPHICS
- ARTIFICIAL INTELLIGENCE
- STIMULATION SYSTEMS
- COMMAND AND CONTROL SYSTEMS
- SECURE COMMUNICATION

EARTH AND SPACE SCIENCES (32)

- ACTIVE AND PASSIVE REMOTE SENSING
- EARTH AND PLANETARY ATMOSPHERES
- EARTH AND PLANETARY GEOSCIENCE
- OCEANOGRAPHY
- PLANETARY ASTRONOMY
- INTERPLANETARY PHYSICS
- SOLAR/ASTROPHYSICS
- LABORATORY CHEMISTRY & PHYSICS

AVIONIC SYSTEMS & TECHNOLOGY (34)

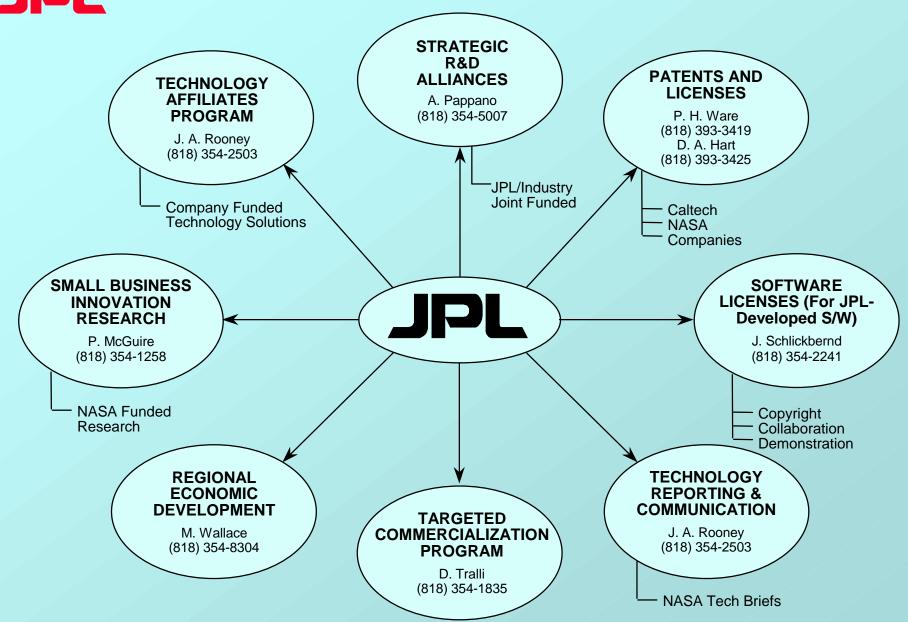
- AVIONIC SYSTEMS ENGINEERING
- SYSTEMS ENGINEERING
- ROBOTICS AND TELEOPERATORS
- SEMICONDUCTOR MATERIALS
- ADVANCED MICROELECTRONICS/VSI
- ELECTRICAL POWER
- PHOTOVOLTAICS
- ELECTRONICS PACKAGING
- ADVANCED ELECTRONIC PACKAGING
- ELECTRONIC FABRICATION
- IN-SITU EXPLORATION SYSTEMS & INSTRUMENTS
- DIGITAL & ANALOG ELECTRONICS
- CONTROL SYSTEMS
- ELECTROCHEMICAL TECHNOLOGY
- TRACKING SENSORS
- FLIGHT COMPUTERS & SPACECRAFT DATA SYSTEMS
- ATTITUDE CONTROL & POINTING

OBSERVATIONAL SYSTEMS (38)

- VISUAL IMAGING SYSTEMS
- INFRARED INSTRUMENTS
- PASSIVE MICROWAVE INSTRUMENTS
- IMAGE PROCESSING TECHNOLOGY
- SCIENCE DATA ANALYSIS
- PLANETARY DATA SYSTEMS
- INSTRUMENT FABRICATION AND TEST

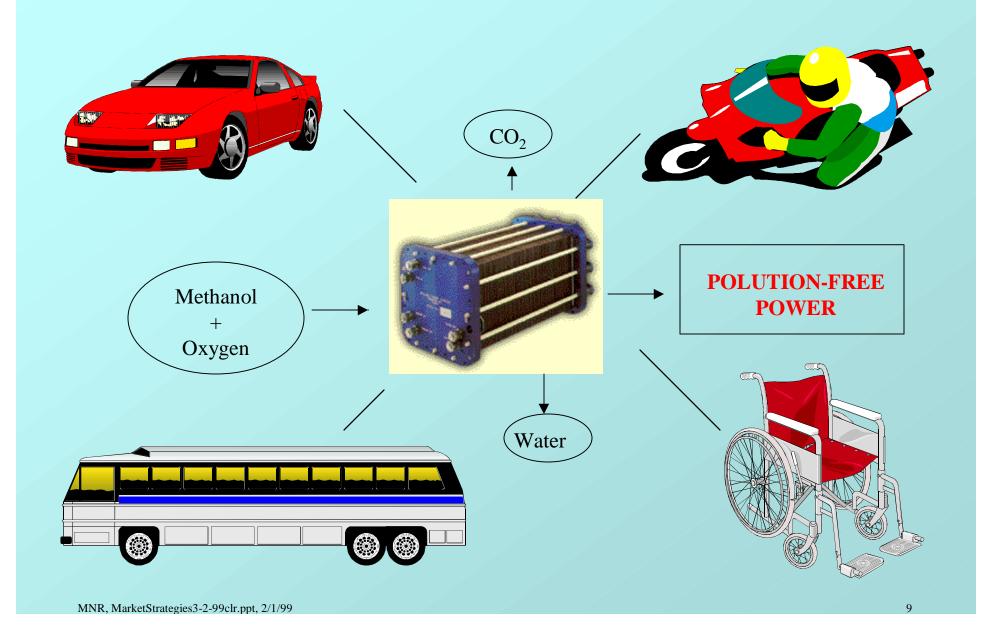
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WAYS TO ACCESS JPL TECHNOLOGY



JPL

TRANSPORTATION APPLICATIONS FOR THE JPL DIRECT METHANOL FUEL CELL





HOW TO CAPTURE JPL'S BUSINESS OVERALL ACTIVITIES

- Discover the cycle-of-operation -- Participate in industry interactions
 - Inquiries on forecasts
 - Capability briefings
 - Technical interchanges on mutual technological interests
 - Tech expos, high-tech conferences
 - Ask about recompetition of support contracts
- Early involvement in the development of requirements
 - Discussions with Contract Technical Managers and Cognizant Engineers
- Submit a winning proposal
- Non-competitive procurement (if justifiable)



SUPPORT CONTRACT SELECTION/RECOMPETITION ISSUES

- Available options to extend the contract
- Competitive vs non-competitive source justification
- Recompete the effort
 - requirement changes
 - small business set aside
- Relationship of this work to other contracts
 - interference
 - overlap
 - scope
- Strategic issues



SUPPORT CONTRACT BASELINE AND FUTURE PLANS/EXPECTATIONS

| CONTRACT | EXPIRES | \$ VALUE |
|--|----------------|--------------|
| Deep Space Network specialized engineering support Modern Technologies Possible extension | 11/99 | 26M |
| Deep Space Network Operations & Engineering Support – Allied Signal – No contract | 12/98 | 0 (Ended) |
| Science Data Implementation & Operations Raytheon STX | 09/03 | 55M |



SUPPORT CONTRACT BASELINE AND FUTURE PLANS/EXPECTATIONS (Cont'd)

| CONTRACT | EXPIRES | \$ VALUE |
|---|----------------|----------|
| Flight Systems and Instrument Tasks (FIST) | TBD | TBD |
| Expect award soonMultiple extension options | | |
| Engineering Design and Fabrication (Labwide) | 06/99 | 13M |
| Lockheed MartinNot recompeted | | |
| Mission and Computing Support Services (MACS) for Div 39 – OAO Corporation – Plan: Extend to 04/00 – Future: Possible RFP to recompete | 04/99 | 286M |



SUPPORT CONTRACT BASELINE AND FUTURE PLANS/EXPECTATIONS (Cont'd)

| CONTRACT | EXPIRES | \$ VALUE |
|--|----------------|----------|
| Instrument Repair Calibration Loan Pool | 03/99 | 10M |
| SAMCO (RCM Technologies, Inc.) Plan: Extend by options 2 years Future: Recompete, small business set aside | | |
| Mechanical/Thermal Design Development Support Swales Not recompete | 09/99 | 7M |



SUPPORT CONTRACT BASELINE AND FUTURE PLANS/EXPECTATIONS (Cont'd)

| CONTRACT | EXPIRES | \$ VALUE |
|--|----------------|----------|
| TAP Related Tasks– NYMA– Recompete | 09/99 | 32M |
| Thermal Design and Engineering Support | 11/99 | 1.5M |
| Applied Science LaboratoryPlan: Extend by 2 years | | |



HOW TO CAPTURE JPL'S BUSINESS

- Marketing approach
 - Communicate and gain familiarity with the relevant areas
 - Acquisition Operations and Planning Office
 - Business Opportunities Office
 - **Technical Divisions**
 - Contract Technical Managers
 - **Contract Negotiators**
 - **Program and Project Directorates**
 - Centers of Excellence
 - **Process Owners**
- Build rapport



ESTABLISH RELATIONSHIPS TO FACILITATE MARKETING!

- Use contacts to:
 - Locate the relevant personnel
 - Technical side
 - Acquisition side
 - Find the source of opportunities
 - Lists, internet
 - Formulate concepts and requirements
 - Talk with the technical and procurement staff
 - See http://pro-net.sba.gov/
 - Enroll in this service!
- Learn to seize opportunities that arise
 - How to react when
 - The Technical Representative does not know his responsibility



ESTABLISH RELATIONSHIPS TO FACILITATE MARKETING!

POWER IN NETWORKING

- Organizations
 - Small business associations
 - Trade organizations
 - Customer community
- Similarity in processes and methodology
 - Outreach
 - Interfaces with outside
 - Benchmarking



ESTABLISH RELATIONSHIPS TO FACILITATE MARKETING!

POWER IN NETWORKING (Cont'd)

- Customer Networks
 - One NASA center with another
 - Promote strong suppliers
 - Connect reward and recognition and products/services



KEY TECHNOLOGY – INDUSTRY MARKETING SUMMARY

- Valuable resources
 - Business opportunities and acquisition operations and planning offices
 - Websites
 - Acquisition, Business Opportunities Office
 - Engineering and Science Directorate
 - JPL phone book
 - Blue pages, yellow pages, white pages
 - New programs and projects
 - Centers of Excellence
 - Process owners
 - Personnel reassignments and organization charts
 - High-Tech Forums, Technology Expos
 - Technology contact lists



JPL HOME PAGES

Jet Propulsion Laboratory

Acquisition Division Home Page

Engineering and Mission Assurance Office

Engineering and Science Directorate

JPL Business Opportunities Office

JPL Terms and Conditions

Mars Exploration Technology Program

Small Business Administration Procurement Marketing and Access Network

Space and Earth Science Programs Directorate

Technology and Applications Program

Telecommunications and Mission Operations Directorate

http://www.jpl.nasa.gov

http://acquisition.jpl.nasa.gov/

http://eis/oema/External/index.html

http://eis.jpl.nasa.gov/esd/

http://acquisition.jpl.nasa.gov/boo/

http://acquisition.jpl.nasa.gov.e2000.htm

http://Mars.jpl.nasa.gov

http://pro-net.sba.gov

http://www.jpl.nasa.gov/sespd

http://mishkin.jpl.nasa.gov/TAP.html

http://deepspace.jpl.nasa.gov/900/public/

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JPL's STRATEGIC GOALS AND ACTIONS THAT RELATE TO INDUSTRY

- Expand the use of partnerships to promote and influence the development, infusion, and transfer of applicable technologies and mission concepts
- Expand the use of task and task-order contracts to meet the need for rapid technical support
- Expand the use of performance-based contracts



JPL CENTERS OF EXCELLENCE

- Foster competencies essential to fulfill the JPL Strategic Plan
 - Critical competencies and technologies for JPL's lead roles in deep space exploration and the Origins Program
- Create Ed Stone's "communities for innovation" which cut across JPL organizations
- Demand <u>attention</u> from the standpoint of strategic resource allocations
 - Key personnel, partnerships with industry and academia, processes, tools, facilities, B&P funding, technology funding



JPL CENTERS OF EXCELLENCE (Cont'd)

- Center for Space Microelectronics Technology (CSMT)
 - Leader: Dr. Barbara Wilson
 - Microelectronics, sensors, high performance computing
- Interferometry Center of Excellence (ICE)
 - Leader: Dr. Michael Shao
 - Space Optical Interferometry
- Center for In-Situ Exploration and Sample Return (CISSR)
 - Leader: Dr. Patricia Beauchamp
 - Scientific, technological, and system development capabilities for in-situ and sample-return missions to solar system bodies



JPL CENTERS OF EXCELLENCE (Cont'd)

- Center for Integrated Space Microsystems (CISM)
 - Leader: Dr. Leon Alkalai
 - Spacecraft avionics "on a chip"
- Center for Space Mission Architecture and Design (CSMAD)
 - Leader: Stephen Wall
 - Processes, tools, and people for conceiving, planning, and developing missions
- Center for Deep Space Communications and Navigation Systems (Descanso)
 - Leader: Dr. Catherine Thornton
 - Deep space comm and nav systems, subsystems, and technologies



STRATEGIC TECHNICAL CONTRACTS WORKING GROUP CHARTER

- Leadership and oversight
 - Establish, maintain and ensure
 - Implementation of guidelines and procedures that assure a viable suite of contract vehicles
- Specifically
 - List of contracts, full spectrum
 - Recommend changes in response to evolving contract needs
 - In accordance with partnering and make/buy



STRATEGIC TECHNICAL CONTRACTS WORKING GROUP CHARTER (Cont'd)

- Oversight responsibility
 - Develop processes that assure:
 - Adequacy of the strategic contracts
 - Usage of task and task order contracts and performance-based contracts
 - Criteria for adding new contracts (or deleting)
 - Socioeconomic goals part of strategy
 - Involvement of appropriate process owners



PROCESS FRAMEWORK

CORE CONTRACTS

| TYPE | EXAMPLE |
|----------------------------------|--|
| SYSTEM (0) | PAST PATTERN PROGRAM OFFICES FORM BASED ON NEED CONSOLIDATED SPACE OPERATIONS CONTRACT (CSOC) |
| SUBSYSTEM LEVEL (1) | L-M (TASK ORDER) NYMA MISSION OPERATIONS SUPPORT PLANNING FIST ("INSTRUMENT PARTNERING") RAYTHEON ENG & SCIENCE DATA PROCESSING OAO - MISSION AND COMPUTING SUPPORT |
| ASSEMBLY AND FAB SERVICES (2) | L-M, CONDOR, LITTON, ETC. CABLE; ELECTRONIC FABRICATION HYBRIDS (FUTURE FORMATION) COMPOSITE OPTICS, INC HIGH TECH MATERIALS SWALES - THERMAL & STRUCTURAL INFOTECH - SOFTWARE, NON FLIGHT HARDWARE |
| OTHER (3) | CONTRACTOR PERSONNEL (TSEP) LOAN POOL (SAMCO) |



ESTABLISH RELATIONSHIPS TO FACILITATE MARKETING! (Cont'd)

- Actions to take upon a win
 - Consider a kickoff meeting
 - Meet all parties
 - Discuss roles/responsibilities
 - Discuss/review the scope of work
 - Discuss the factors
 - Success/strong points
 - Weak points



ESTABLISH RELATIONSHIPS TO FACILITATE MARKETING! (Cont'd)

- Actions to take upon a loss
 - Ask for a debriefing
 - Ask questions
 - Consider what needs to change for success
 - Speak with Small Business Office
 - Get special insight
 - Listen actively! Listen!